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THE ENLARGEMENT 16  
OF  
THE SPHERE OF WOMEN:

*An Essay in Social Biology*

BY

C. PITFIELD MITCHELL,

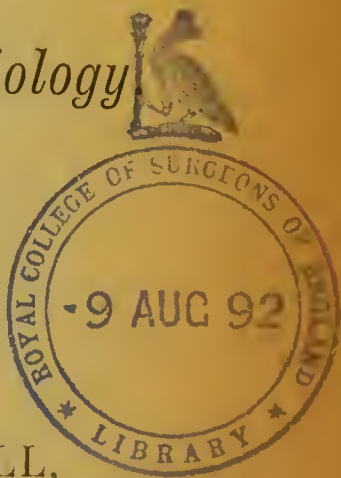
*Author of "Dissolution and Evolution and the Science of Medicine";  
"The Philosophy of Tumour Disease," &c.*

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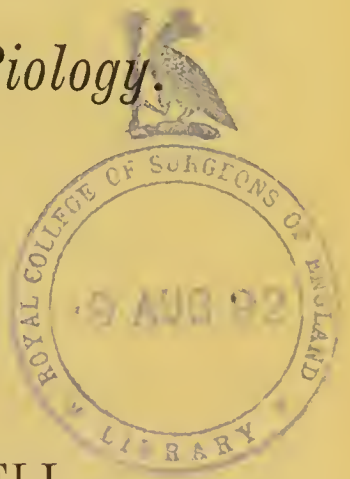
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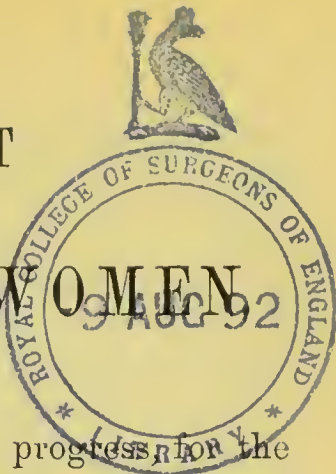


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# THE ENLARGEMENT OF THE SPHERE OF WOMEN



THE social movement, now so actively in progress for the setting free of women from the circumstances which have hitherto been the appanage of the sex, has, like similar social movements, received its impulse from forces seeking a more advantageous distribution. That the energies of some women should find new lines of discharge has become an imperative and even vital need. Very many women must work or want the means of living. The movement is likely, therefore, to fulfil the necessities of its creation, and hence is it important that we should take account of whatever considerations may serve to guide us in influencing the new current in the great ocean of social life. Whether a preponderance of good or evil will ensue from the enfranchisement of women, from their appropriation of male occupations, or from otherwise outstepping what has always been regarded as the natural sphere of women, are questions uppermost in the minds of many. Answers have been sought in numerous directions: in appeals to "Nature's designs"; in appeals to sentiment, as the sentiment of justice; to obvious utilities, because of special feminine aptitudes; and to the innate differences of capacity, both of kind and degree, in women as compared with men. In this essay it is proposed to inquire how far the so-called emancipation of women is countenanced by certain pertinent inductions of biological science, especially inductions concerned with the origin and significance of sex. To know whether women should be granted a place in the polity from which they have heretofore been excluded, a very needful preliminary would seem to be some understanding of the import of sexual differentiation. Women remain without political enfranchisement, obviously because they are women. But the differentiations of the



sexes, or, more technically, the dimorphism of the sexes in mankind, is continuous with a sexual differentiation traceable by a descending though fluctuating scale to the Protozoa—the simplest forms of animal life. The striking contrasts between male and female in the higher animals, including man, are in continuity by evolutionary gradations with an absolute indistinguishableness of the sexes in the lowest organisms. This being the case, then we may look for instruction of a definite and trustworthy character from a survey of sexuality in the animal kingdom. I think we shall find it profitable, before attempting wilfully to transform the fabric of society, to contemplate at length some properties of its warp and woof.

Using a convenient figure, and not allowing ourselves to forget that it is a figure, let us set out with the question: What is Nature's policy in instituting the primary and secondary sexual differences displayed almost universally by animals and plants? By primary differences are meant those directly connected, and by secondary differences those indirectly connected with the functions of reproduction. Examples of the first in plants, are pollen and ovules; of the second, the floral appendages which give loveliness to the vegetal world; examples of the first in animals, are sperm-cells and germ-cells; and of the second, the mane of the lion or the antlers of the stag. To those whose knowledge of sex is confined to their daily familiar experiences, the question must appear absurd. As reasonable to ask what is the policy of Nature in instituting a world and a universe? Not so, however; there is an import in sexuality as profound and momentous as I take it to be simple.

Upon this problem much thought has been expended, but we have not yet any accepted or acceptable solution. Herbert Spencer, who has thrown so much light upon the whole subject of genesis, explains sexuality by the hypothesis that "the approach towards equilibrium in organisms, is accompanied by an approach towards molecular equilibrium in them; and that the need for this union of sperm-cell and germ-cell, is the need for overthrowing



this equilibrium, and re-establishing active molecular change in the detached germ—a result which is effected by mixing the slightly-different physiological units of slightly-different individuals.”\* To Darwin, sexuality is mainly subservient to the favourableness to offspring of inter-crossing; † though the “Origin of Species” contains what may perhaps be described as a presentiment of the possibility of the view I am about to put forth. ‡ Among later writers, Professor Geddes and Mr. J. Arthur Thomson have advanced the speculation that “the female is the outcome and expression of preponderant anabolism, and in contrast, the male of preponderant katabolism”; § anabolism and katabolism being equivalent to constructive and disruptive. In a chapter upon the theory of sex, it is rather humourously said by these authors that “the number of speculations as to the nature of sex has been well-nigh doubled since Drelincourt, in the last century, brought together two hundred and sixty-two ‘groundless hypotheses,’ and since Blumenbach quaintly remarked that nothing was more certain than that Drelincourt’s own theory formed the two hundred and sixty-third. Subsequent investigators have, of course, long ago added Blumenbach’s ‘Bildungstrieb’ to the list; nor is it claimed that the generalisation we have in turn offered has yet received ‘final form,’ if that phrase indeed be ever permissible in an evolving science, except when applied to what is altogether extinct.”

The explanation or considerations which I have to submit upon the origin and import of sexuality, and from which I hope to deduce conclusions of value in their bearing upon the subject of this essay, form part of a work in course of preparation. In the pages of this *brochure*, the elaboration required in dealing adequately with a question so large as that of the nature and significance of the sexes is, needless to say, impossible. It must therefore suffice if I set forth such rough delineation as will answer the present

\* Principles of Biology, p. 274. V. 1.

† See Origin of Species, p. 118 *et seq.* E. 1888.

‡ Op. cit. p. 74. E. 1889.

§ The Evolution of Sex, p. 132.

purpose, of what appears to me the real source and meaning of the primary and secondary sexual differences.

The comprehension of sex is involved in our comprehension of the process of organic evolution. We shall venture here to dissent from the current conception of this process, as well on the ground of what is conceived to be the misapplication of the conception as on the ground of its insufficiency. Our next step, therefore, will be to propose an alternative view which is expected to be free from the defects of that in vogue.

A fundamental fact of life is, that this is a hard world ; living is hard for all creatures, but especially for the least evolved, and for those unadjusted to their conditions. The means of life must be obtained by action, if only visceral action, great or small according to circumstances, and the overwhelming and insidious powers which environ living things are ever working for their destruction. Darwin's "struggle for existence" is one aspect of this fact embodied in a phrase. I say *one* aspect, for Darwin dwelt with unremitting stress upon the strife which goes on between animal and animal, plant and plant, and plant and animal, but he had little to say of that immensely greater struggle which goes on unceasingly between every speck of living matter and the inorganic forces of the cosmos. While the struggle between living things is here fierce and deadly and there replaced by mutual aid, is now keen beyond the endurance of many and again but little felt, the struggle between protoplasm and the inorganic energies that invest it continues in every case without remission until at last the cosmos claims its own. Every discrete mass of protoplasm is dissolved sooner or later ; this never fails to be the issue of the conflict between what is living and what is not living.

I have drawn this contrast for the purpose of estimating more justly than is usual the antagonism of life and its conditions, and now I go on to observe that whatever else the succession of changes we call evolution may be, it is pre-eminently a process through which living matter and force have gained step by step in their long and ceaseless war with other living matter and force and the matter and

force that is "dead." In the realm of human life we speak of this as man's conquest of Nature, as his subjection to his uses of the forces of Nature. Just now it was said that the hard world is hardest to the least evolved, and if we contemplate the least evolved in apposition with the highest evolved, we shall be able to take measure of what has been won by the microcosm in the shape of enhanced life from the opposing activities of the macrocosm. Both among Protozoa and Protophyta, the lowest subkingdoms of animals and plants, the life of the individual is marked by exceeding precariousness, feebleness, and short duration. A little less moisture, the absence of some needful constituent of the soil, and the protoplasm of such simple bodies as micro-organisms on certain fungi begins to undergo the changes of death, or changes on the way to death. And here the natural length of life is often of no greater span than a few hours. At the other extreme of the evolutionary scale how different! Man, or one of the higher Phanerogams, may extend his term to one hundred years and live through wide extremes of conditions of every sort. Now it happens to be still one of the most interesting problems in the domain of general biology to determine the means by which this stupendous advantage has been won by living matter during its immeasurably long contest with the powers that make for its destruction. This, in fact, was the problem, conceived from another outlook, which Darwin set himself to solve. Darwin saw in natural selection by survival of the fittest the chief means of evolution; this was to him the principle agency through which living substance has little by little drawn to itself more life at the cost of the antagonist forces. True, such was to Darwin the means by which life has advanced by many different ascents to the stages called species; but this is only looking at the same thing with a different focus. Can we accept the principle of Darwin, with its subordinate principles, as at once a valid and sufficing account of the cause of organic evolution? Naturalists are not yet unanimous upon the precise value of natural selection as a factor of progress among animals and plants. Here we shall accept the fact



of natural selection and its immense importance, but shall not regard it as a veritable factor ; it will be to us a necessary incident of the process of both inorganic and organic evolution. Nor can it be acknowledged that Darwin's spontaneous and other undefined, unrealizable variations, constituting the material upon which natural selection works, are sufficient as comprehending the real factors. What, then, is the process of organic evolution and the means of it ? As at least a more tangible, comprehensive, and serviceable conception, we shall espouse the proposition that life has progressed by the establishment of profitable co-operation, or economical divisions of labour, among the units of life. Within the unicellular Protozoa these units are protoplasmic granules, whose progressive subdivisions of function mark the rise of Infusoria from micro-organisms ; within the rest of the animal world the units are cells or cell-aggregates, whose progressive subdivisions of function mark the rise of the higher from the lower Metazoa, and within the plant-world of Phanerogams from Algæ. Lastly, the units may be organisms whose functional subdivisions are now observed in what we call social life, and in the relations of groups of social units—inter-tribal and international co-operation. All bodily and all mental powers have resulted from profitable reciprocities of service among cells and granules, and, where the units are organisms, this has been the means of all social progress. To it must be ascribed the evolution of political, religious and commercial institutions, the institutions of "society," and the subordinate functions of the body politic. If life is advancing it is out of the profit of co-operative combination among the units—granules, cells, plants and animals, and aggregates of plants or animals. At every level of evolution the consensus of co-operating elements is in relation to the conditions. This has been and continues to be the means of organic evolution. And now as to the factors, since natural selection by survival of the fittest is regarded as no more than a feature or aspect of the process. What are they ? The factors are the positive energies that condition living things and that reside in them. Out of

the inter-action of these—the internal and external factors—the subdivisions of labour have resulted. The positive external conditioning energies are largely the antagonist energies of the living world, but to a greater degree the energies of the lifeless world. From this it follows that the survival of the fittest, in the Darwinian sense, has been the survival of the most profitable co-operative arrangements of the protoplasmic energies in the individual, in relation to the conditions and the life of the species.\*

Propounding another view of the means of organic evolution is apparently a considerable divagation from our subject—"the enlargement of the sphere of women." Nature, however, unites by the web of a common method the most dissimilar and distant things, and we shall now see an unlooked for illustration of this. It is upon the phenomena of organic progression so summed up that the primary and secondary sexual differences become intelligible. The abstruse phenomena of sexuality are examples of that reciprocal and economical division of labour which, as just now proposed, has been the method in organic evolution, and the means by which living matter has acquired the transcendant powers of its highest forms. The vital advantage of functional division in the work of life was the foundation, in all probability, of the first union of cells not yet differentiated as male and female, and has since continued to be, immediately or mediately, the *raison d'être* of the ensuing differentiations distinguished as sexual differences. But more than this, of the infinite varieties of functional reciprocity exhibited by animal and vegetal organizations, with one exception probably none have been as profitable to life in general as sexual reciprocity, the exception being the very fine subdivision of the substance of cells into the reproductive elements. The full extent of its importance from the beginning until now can only be fully realized by meditation upon considerable masses of relevant data. Almost certainly the higher

\* The process of division of labour, both physiological and social, has, of course, long been recognized, but I do not think it has ever before been definitely advanced as the universal instrument of progress wherever life is.



phases of evolution, the higher reciprocities of function, have been made possible by the institution of male and female.

From mere assertion let us now turn to the more wholesome and congenial region of facts, though the magnitude of the subject of sex will permit of only a very superficial inspection of them. The potentialities of the sexual differentiation are, in a sense, foreshadowed by the nature of reproduction. To the extent that reproduction involves the loss of material portions of the parent-body, the life of the individual and the life of the species are directly opposed; there is an immediate antagonism between reproduction and every other function of living matter. Of all functions reproduction is the most costly. It is not surprising, therefore, that the first step towards a reduction of this cost should be the distribution or division of the function among exceedingly small portions of the matter of living cells. Nearly everyone is familiar with the excessive minuteness of the particles, cast off as spore or sperm and germ, which serve as centres for fresh development. A good common instance is supplied by the ripe puff-ball, whose fine reproductive particles are given off like clouds of smoke. And a single reticularian has been estimated to contain 10,000,000 spores. Now this extreme sub-division of the detached protoplasm has probably ensured the spread and progress of life to a degree that would else have been impossible. While enormously diminishing the cost of reproduction to the individual, it has enormously added to the chances of survival in offspring. And this most economical arrangement—economical alike to the individual and the species—makes its appearance at the threshold of life, and is maintained to the evolutionary zenith. The fact is of the deepest significance. It is hardly possible to unduly emphasize the economical importance of potentializing—if I may so speak—in a microscopic morsel of protoplasm the energies which, when orderly unfolded, produce an individual of inestimable complexity of function and structure. Hence it appears, as I have said, at the threshold of life. But here, known as



reproduction by spores, this fine comminution of the genetic protoplasm is asexual, just as reproduction by the budding or division of ponderable portions of an organism is asexual. The sporulation of Protozoa, and many inferior plants, is the initiation of reproduction by superfine division of the detached protoplasm; and, very significantly, in these lower forms of life it is usually the consequence of impending death of the parent cell, and the entire body of the parent goes to the making of the spores. The spore-formation is associated with circumstances which call for the utmost economy in the distribution of the energies to be passed on to another generation. Now observe, that great as must be the gain to life of such superfine division, it is a further advantage, on the principle of co-operation, if the energies potentialized in the germ are drawn from two individuals instead of from one. Owing to the great physiological expense of reproduction, and its opposition on this account to other functions, life, present and to come, must be advanced if the expense is divided among the fragments of a single cell, and must be still further advanced if the division is among the fragments of two cells, as occurs in sexual reproduction. And the beneficial effects of such co-operation will increase with each increment of progress in life. Of comparatively small benefit where the union is of very simple-structured individuals, it will be of surpassingly great benefit where the product of sperm and germ is required to work out the complexities of one of the higher mammals, say of a man. Perhaps every human family, as also the production of varieties of plants and animals by hybridization, show that sperm and germ take approximately equal shares in the developmental operations. Not, of course, equal shares in nourishing offspring, but equal shares in those more costly protoplasmic activities by which each new organism acquires its structures and powers. Nutriment is as the raw material, while development is the work of the builders.

This, I believe, is the true and essential meaning of the minuteness of germs, and of the differentiation of male and female. Whether the differentiation possesses any additional

meaning will not be here considered; we shall proceed now to note some further interesting facts in corroboration.

Especially noteworthy is the existence of true sexuality in the lowest subkingdoms of animals and plants. Though the very simplest organisms, as most unicellular Protozoa and some Algæ and Fungi, are altogether asexual, yet true sexuality is already established both in Protozoa and Protophyta. At first the uniting elements are in all distinguishable attributes identical. This is the case where the individuals are unicellular, as in the Infusorian *Paramecium*, and members of the Conjugatæ, a family of Algæ. Here the advantage of union is very plainly that accruing to the new generation from the joint energies of the coalesced individualities. In the multicellular or compound Protozoa and Protophyta, there appear in the uniting elements those extrinsic differences—or a close approach to them—which we distinguish as male and female germinal characters. Examples are *Proterospongia*, *Acinetaria*, and members of the Diatomaceæ. Thus, corresponding to that high economic value we have attached to sexuality, the differentiation sets in almost with life itself.

In immediate connection with what has just been said, another fact of great interest falls next to be noted. In the compound animals of the lowest subkingdom, in many of the lower Metazoa, and among all classes of plants, the differentiation of male and female may be confined to the single individual, that is, the differentiation may not have progressed to a separation of the sexes, but only to a separation of sexual elements. The individuals are not unisexual but bisexual. This is the phenomenon of hermaphroditism. Now were it expedient to do so a large body of facts could be adduced showing that hermaphroditism as compared with unisexuality, or diœcism as it is termed, is simply a lower stage in the process of economising by the division of labour. We must be content with mention of the facts that excepting some of the Serranidæ among fishes, the whole of the highly-evolved Vertebrata are diœcious, while the majority perhaps of the Invertebrata are monœcious,

*i.e.*, hermaphrodite. In the vegetable world dioecism and hermaphroditism are both distributed almost everywhere and are apparently more immediately under the influence of external conditions. The reproductive function in animals is sensitive to changes in the environment, but much less sensitive than in plants; a plant can be made to reproduce or not at will. Further to note is the fact that hermaphroditism among animals and probably among plants, is sometimes an accompaniment of degeneration and parasitism, consequent on luxurious living. A step in the transition from bisexuality to unisexuality is frequently seen in the congress of hermaphrodite individuals as, for example, in the case of the common snail.

This falls in with our mode of interpretation. As it will profit a plant or animal and its offspring if the energies made over to the germ are taken from different elements or parts of its compound structure, so will it still further profit both the individual and the new generation if these energies are contributed not by different parts of one individual but by distinct individuals. Thus, in accordance with the view here presented of the process of evolution as a process of accreting life by reciprocal services among the units of life, we meet with a graduated series of such services in respect of the essentials of the function of reproduction. Presently we shall learn that there also exists a graduated series in respect of the non-essentials or secondary and tertiary characters. But we must first refer to a class of facts which should be particularly heeded if we would appreciate the importance of the primary and secondary sexual differences in mankind.

These are the facts which confirm the induction that sexuality is connected with the antagonism between the functions concerned exclusively with the life of the individual and those concerned exclusively with the life of the species, the antagonism of individuation and genesis, to use the language of Herbert Spencer. As life progresses these two sets of functions become mutually involved or merged in one another, but the distinction and opposition of the function of working and the function of repro-



ducing are never obliterated. This antagonism is evidenced on the largest scale by the increase or diminution of fertility in individuals with increase or diminution in the ease of self-maintenance; and by the relative infertility where the organization is high, as in mammals compared with fishes, or hybrids compared with pure breeds. In plants the relationship is less manifest, for the reason that limits are set to the organization of plants by the fixed habit, and for the reason that plants are accumulators rather than expenders of energy. But these circumstances being allowed for the relationship may be discerned among them. Among striking examples of this antagonism of the functions of working and reproducing, we may find space to mention the hive-bees. In a hive of bees the workers are sterile females; and the queen, fed on food of special nutritive qualities, lives solely in the interests of the species, doing no work whatever for the community. So is it with the reproductive elements of a multicellular organism, these arise from inactive cells, which are remarkable as never having made during the whole of evolutionary history any sort of effort in the interests of the cellular community to which they belong.

We must now pass on to note how the secondary sexual differences grow out of this antithesis of genesis and individuation by the institution of further profitable divisions of labour. With limited space we have necessarily to confine ourselves to the most important of the secondary sexual differentiations, and those only of the higher animals. That of most interest to us is the assumption by the female of the functions of nourishing, nursing, and tending offspring for the embryonic, foetal, and post-natal periods of life; and the assumption by the male of the work of affording provision and protection for the family. Now, like the primary differentiation of male and female, in the single individual or in two individuals, this derivative differentiation is an extension of the process of co-operation, by means of which is lessened the excessive and ever-increasing cost of reproduction. As life advances offspring make greater and greater demands upon the parental energies.

This they do on account of the augmenting complexities of function and structure which require increased time and care for complete unfolding or development. Plants show us an infinite number of gradations in the evolution of the nutritive function of the female, but owing to the vegetative mode of life there is no correlative differentiation in the male corresponding to that observed among animals. In animals we find a very great variety of means related by the extent to which the energies of the female are devoted to the life of progeny.

As to the economic value in the higher grades of life of the exchanges of service now under consideration, this must be regarded as scarcely less than that of the earlier exchanges of service. Both sets of differentiations are rooted in the fundamental antagonism of genesis and individuation. These later divisions of labour have made possible on the one hand a nurture and care of offspring highly favourable to life at large, and on the other hand an acquisition on the part of the male of powers equally favourable to life at large. It should be borne in mind that male and female though divided in person in the higher animals are one in the scheme of animate existence. The exemption of the male from much direct physiological outlay in the interests of the young is undoubtedly a deep source of many distinguishing male characters. The greater size and beauty in general of male birds and male mammals, their more highly-developed muscular systems, their organs of protection and defence, superior courage and sagacity, and innumerable other specialities, are in reality, I believe, the outcome of the larger capital of the male available for individuation processes. This capital responds to the stimulus of circumstances, and the structures become established increment by increment. And where the powers thus acquired are utilized for the combined lives of male and female, the surplus capital of the female is spent upon offspring.

Thus for the import or meaning of sexuality we look to the nature and costliness of reproduction, and to the prodigious profitableness of co-operation by sexes. In accordance with the view I have advanced of the means of organic



evolution, the factors of sexuality have been on the one hand the conditions of life, and on the other the reactive energies of organisms. Action is the universal incitement to nutrition and growth, and the establishment of organic characters. By circumstances organic characters are spurred into existence or not, to increase or not, and to continue or not. An attendant feature has, of course, been the constant survival of the forms best fitted to their circumstances.

Let us now carry these considerations with us and apply them to mankind. Not only are the primary sexual differences of men and women of precisely the same significance as elsewhere in the realm of life, but the foregoing considerations are equally pertinent in connection with secondary and tertiary sexual characters.

In mankind there has gone on a divergence of the sexes such as is not seen in any of the lower mammalia. This divergence must be associated in part with the evolution of that form of life we distinguish as social. As here propounded, life everywhere, considered evolutionally, is social, the sociality—co-operation—being now of one order of units and now of another, and the strife between the units and their conditions ceases only with death. The economy of co-operation where the units are men and women has led to the accumulation of vast stores of the means of living—wealth—and inestimably greater ease of living from economies of sentiency, thought, and action, representable as progress in knowledge, science, arts and morals. In consequence of this large accession of the ways and means of existence, and in direct extension of pre-established lines of advance, women have yielded up more and more of their physiological estate to reproduction, the care of children, and the life of the family. The difference in respect of maternal sacrifices is great if we compare the women of our own society with those of savage societies, and very great if the comparison is with the higher mammals. Within a civilized society the difference in degree varies, of course, with the social grade. Hence has it come to be that, speaking generally, the boundaries of a woman's province



are the confines of the domestic and its related social spheres. On the paternal side, also in direct extension of pre-established lines of advance, men have continued to occupy, and to extend their relations with, the world that is boundless. Out of this difference in the respective spheres of men and women—a limitless field of activity in one case, and a narrowly-limited field of comparative passivity in the other—have arisen the contrasts we now see between men and women; contrasts of bodily conformation and strength, contrasts of intellectual quality and power, and contrasts of emotional nature. Now I think it can hardly be doubted that as long as we are able to regard men and women as divided in person but united in life and purpose, these later divergences of male and female have, like the earlier divergences, been the best conceivable. During the emergence of mankind from savagery and barbarism it must have resulted disastrously—if there is all that appears in what is understood as progress—had men and women to any considerable degree been withdrawn from their respective departments of life. For we have seen that the different life-circumstances, which appear as the natural appanage of men and women, have grown by degrees out of the natures of living things and their conditions. Therefore, from the point of view of human advancement in the past, there is probably not much real ground for dissatisfaction with the existing *status* of women. But whether from the point of view of the present and the future a continuance without change, if this were possible, of the established order of things would be for the best is quite another question. Let us look at it in one or two of its more important aspects.

Facts of no class sooner arrest the attention of the student of sex than those which indicate a susceptibility of the reproductive systems of organisms to changes in the environment. The reproductive is in certain respects more sensitive to altered conditions than any other functional system, and this characteristic, like sex itself, is ultimately ascribable to the antagonism of genesis and individuation. Though these two sides of the organismal nature are

mutually involved, the opposition of one to the other confers upon the association a certain instability. Among previously mentioned illustrations of the sensitiveness of the reproductive system, is the tendency of inferior animals, and probably plants, that live luxurious lives, to revert from isexuality to unisexuality or hermaphroditism. Another is the degeneration under like circumstances of male or female. Of many citable examples of the latter phenomenon the Rotifera or Wheel-animalcules, a very degenerate group of organisms, are perhaps as familiar as any. "The male is often a fallen representative of the specific type presented by the female, having not only greatly diminished in size but having undergone thorough degeneration in structure, the alimentary canal especially becoming represented by a mere imperforate thread of cells. Nor are such cases of male degeneration by any means confined to this group. A yet more striking instance is presented by the Gephyrean *Bonellia*, in which the oviduct of the large and well-grown female contains a number of almost microscopic ciliated Turbellarian-looking parasites, which have been shown to be degenerate males."\* In some instances, as in Cirripedia or Barnacles, the sexual degeneration may have proceeded so far as to efface the characters of the species.

Cases of this kind are exceedingly valuable for the lessons they impart as to the dependence of sexual characters upon the conditions of life, and the extreme modifiability of sexual characters under changes in the conditions. They are also valuable in that they serve as very pointed illustrations of the highly important sociological fact that intimate and direct co-operation necessarily involves, notwithstanding resultant advantages, a loss of individuality in the units co-operating. But I have cited these cases as a fitting introduction to perception of the fact that among ourselves there are taking place alterations in the circumstances of women's lives which, in process of time, must profoundly modify the present sexual distinctions. The impending modifications I refer to are broadly divisible into two groups: those likely to arise among women whose

\* Encyclopædia Britannica, Article Sex, by Professor Geddes.



lives are complementary to men's lives, and those likely to arise among women whose lives have no sexual purport. We may glance at them in this order.

Surveyed in evolutionary series the members of the animal world, as already observed, show an increasing direct sacrifice on the part of the female parent in the interests of offspring. As we ascend to the higher types, including mankind, the period of gestation lengthens, and so does the period of nurture after birth. The time and attention devoted to the subsequent bringing up of progeny also increases. This we have ascribed to the augmented resources of both parents as life has progressed, and to the growing demands upon parents made by offspring as the mental and bodily organization has become more complex. Is there any reason to think that the progress of the past in this direction will not go on? There is every reason to think that it will. As life further advances, the parental sacrifices must become still greater. It does not follow, however, that the sacrifices will in all respects be as personal and direct as in the past, indeed, it is certain they will not. At this moment there are many indications that numerous parental duties will come increasingly to be performed vicariously, that is, will be deputed to qualified units of the social body. I do not here refer to usurpation by the State of private functions, but to the voluntary co-operation of individuals. Originally a parental duty, the education of offspring is now almost wholly performed by paid instructors. And clearly this must be attended by benefit to parents and offspring, must enhance life by the profit which ensues from reciprocities of service. Evidence, much and varied, is at hand showing that already for generations upon generations the drafts upon the energies of women for exclusively parental and domestic purposes have been of such degree that the mind and body of the individual woman have suffered great detriment. This is shown most impressively when the physiological capital available for purely reproductive functions has been unduly drawn upon. In a lately-published work \* I have brought together a weight

\* "The Philosophy of Tumour Disease." (Williams & Norgate.)

of testimony which, I think, establishes the conclusion that upon this over-draught depends the terrible frequency of cancer in women. The liability of women to cancer of the sexual organs must be set down in part to that large augmentation of vitality which has attended the evolution of life in the associated state. The surplus forces of the organism have sought the easiest outlet. What is used up for species-maintenance is something over and above what is needed for self-maintenance. Now the wise remedy for this grievous affliction, which falls so mercilessly upon women, is a redistribution of the superabundant assets. The expenditure of the excess should be in the opposite direction, that is, in the direction of self-advancing processes. And such redistribution of forces will correct other of the many evils which have succeeded the too narrowed devotion of women to the offices of maternity and its associated functions.

Are we then to perceive in this a warrant for the political enfranchisement of married women, the cry for which may be regarded as the expression of a longing for relief from ills that are definitely felt but only vaguely intellectualized? It does not appear to me that such is the indication of what has gone before. Within that sphere of women prescribed by the functions of their sex there is ample scope for a new order of activities. In the higher education of women, especially education in whatever tends to the more enlightened discharge of their serious and difficult responsibilities within the family and society, lies a practically inexhaustible field, one there is little likelihood women at large will become mistresses of in a generation. This, so competent to remove the disabilities imposed upon women by the severities of existence in the past, and so competent to check the growing evils of their present conditions, should also, as it seems to me, constitute the probation of women for political enfranchisement. If the latter should ever become, as I think it may, a consummation desirable in the interests of women and the State, it will not be until there has gone on a very considerable extension of the vicarious performance of parental duties. And the extension must be mainly in social area, for there



is obviously a limit to the degree to which divisions of labour can be carried among this group of functions. In respect of extension in either direction the delegation of the practical work of parenthood depends on, as it also furthers, the accumulation and distribution among the people of the means of subsistence, and upon this too depends that individual advancement in knowledge and intelligence of suitable kind which will make the suffrage of women valuable to the State and to themselves. The existence of a numerically small, but influentially large, body of women, eminently qualified to do worthy political service by reason of intellectual accomplishments and the leisure and freedom which go with the possession of means, might, if heeded too exclusively, appear to justify an extension of the suffrage to millions of married women who probably do not desire it, and who, were they thus politically freed, would remain hard-bound by the conditions which their sex enforces. It is a biological fact, of importance to constantly remember, that the functions of motherhood necessitate for their perfect discharge a comparative passivity and fixity as part of the circumstances of life. From the lowest organic forms upwards to man—if we except a few aberrant cases—the female is distinguished by a relative inactivity and a relatively stationary habit, while it is an attribute of the male to be free and active. It thus appears that having regard to social well-being and not to political expediency, woman-suffrage will become justifiable with the advent of a diminished general fecundity correlated with individual advancement, and with the advent of a much higher general standard of living.

Thus far we have considered the matter, while women are regarded as divided from men in person but united with them in life and purpose. Before we pass on to the next section of the subject, where women are regarded as not fulfilling their natural destiny, a few words may be said touching the relative potentialities for happiness of the male and female existencies. From time to time of late there have been recriminatory passages between writers which would indicate the presence of a feeling that

men, in whom is vested the right of rule, have appropriated for themselves an undue share of the joys of life. Now apart from the all-important consideration that men and women, *qua* men and women, exist, and have all along existed, for their joint good and mutual happiness, yet considered as having separate and distinct consciousnesses resulting from their respective activities, the lot of the average married woman is certainly not less desirable than the lot of the average married man. The sphere of each affords a means of pleasurable consciousness quite special to it, and, on the whole, the volume of pleasurable feeling must be greater in women than in men. Besides that the feminine life is the more emotional, the emotions of women are less frequently painful and less frequently subjected to arrest. From the nature of the functions of motherhood, the joys of maternity have a much larger swell than the joys of paternity, while the pleasures of family and social life are, for the most part, obtained in affectionate or sympathetic relations with others. Out of the general conditions of women's lives, out of their unconsciousness of the hard world, comes the exquisite joyousness of the laughter of girls. On the other hand, in the active world occupied by men, life is mostly spent in overcoming antagonisms, and there pleasure must be mainly obtained by conquest—of self, of others, or of an obdurate and pitiless Nature. Adding to these facts the disposition, shown abundantly, to accord to women a full share of that freedom in thought and action which men have slowly acquired for themselves at so great cost of blood and suffering, it may, I think, be concluded that the potentialities for happiness of the life of the average of married women are at least equivalent to the potentialities for happiness of the life of the average of married men.

Turn now to that other division of the subject—those modifications of sexual distinctions which are imminent among women whose destiny is not to make complete their own lives and the lives of their sexual opposites. This side of the question of women's sphere and its enlargement is of more real and pressing social moment. It is an impli-



cation of what has thus far been said that the happiness of woman is closely bound up with, if it does not rest absolutely upon, her union with man. Through the long ages of human evolution woman's whole organization has been moulded into conformity with the requirement that, by the assumption of those multifarious and costly functions involved in motherhood and wifehood, she should set man free for the mastery of his environment. On this wise has it come to pass that in the natural course of things she is dependent upon him alike for happiness and subsistence. Sexual love, with its sequences and concomitants, if not woman's whole existence is normally a large part of it, and by the very nature of those offices which have devolved upon her in her division with man of the labour of life, she has been shut out from the acquisition of either the mental or bodily endowments requisite for success in competing as man's equal for place in the world at large. The beneficence of this ordination of human existence under the circumstances of that existence in the past will not for a moment be doubted if our review of life embraces, as it should, an extensive range of appropriate phenomena; and under the circumstances of existence now, no evils of an acute kind are likely to attend while, throughout the several classes of society, there remains a fair balance of numbers in the two sexes, and if the social circumstances are favourable to marriage. But if from changes in the social conditions there arises any marked disparity in the relative numbers of marriageable men and women, or if, from other causes, there must be less marrying, the good of a past ordination becomes a present ill. Further, if the numerical disproportion be that of a large excess of females over males, and if this excess be due to causes permanent and increasing in their character, then there are entailed incalculable suffering and the worst of hardships. For beyond measure is the suffering of a complex nature if the motive forces of its being are wholly without sustenance, and no greater hardship is there than having to engage in the battle of life without the equipment of either weapons or armour.

Here we arrive at the source of that second group of

sexual modifications in women which, as we have stated, are likely soon to become established. The large and increasing preponderance throughout society of women over men threatens to effect, and, indeed, is in actual process of effecting, very wide divergencies from the accepted type of womanhood. Thousands of women have no alternative but to face the world as workers on an equality with men, and other thousands have no alternative, if they would escape the misery of an aimless and sterile life, but to find some new outlet for energies unconsumed by exercise of the specialized feminine functions. If the conditions which compel these deviations from the past norms of life continue in operation, and it is likely they will, the process of bringing the feminine nature into harmony with the new order of things must necessarily be attended with a large amount of suffering. Justice, humanity, the welfare of society demands that effort should be made to smooth asperities in the lives of those women who are obliged to become workers in the world. For these hope lies in a removal of such harsh inequalities as arise from the transposition of women to the spheres of men; in the opening to women of every desirable avenue to industrial and professional activity; in the alleviation which must come from higher and technical education; and, above all, in the steady outflow of marriageable women by emigration to parts of the world where men preponderate. As to the capabilities of women of ultimate qualification in almost every kind of work little doubt can be entertained, granted the condition that women be no more trammelled by law, custom, and circumstance than men. Much time, however, must elapse before the old organization can be fitted to altogether new requirements. And though the feelings must be seared in the process of readjustment, the readjustment will, when effected, contribute largely to the general good.

If it be practicable to give political rights to women who are workers, as contradistinguished from women who are married, a claim for suffrage on the part of working-women should surely be granted.



